Journal of Capital Development in Behavioural Sciences Vol. 13 Issue 1 (March, 2025)
Faculty of Arts & Education, Lead City University, Ibadan, Nigeria
***ISSN Online:** 2449-0679 **ISSN Print:** 2354-3981*

Extent of Teachers Related Factors on Learning of Science Among Senior Secondary School Students in Ibadan South East Local Government Area, Ibadan, Oyo State

Saheed Opeyemi HAMMED
Lead City University, Ibadan,
hammedsaheedopeyemi26@gmail.com
Co-Authors

- Anele Sandra Ugochi, University of Nigeria, Nsukka, anelesandra95@gmail.com
- Olarewaju Abidemi Joyce, University of Ilorin, abidemijoyceolarewaju@gmail.com
- Osariemen Bernice Nkem, Delta State University, osariemenbernice@gmail.com
- Ubiaza Ehidiabhen Lawrence, Babcock University, ehidiabhen@gmail.com
- Oyeleye Oluranti Olanike, University of Uyo, oyeleleolanike4@gmail.com
- Davies Olanrewaju, Ekiti State University, olanrewajudavies43@gmail.com
- Akin Dayo Isreal, Ekiti State University, akindayoisreal@gmail.com
- Phebean Elsieoghene Adelakun, University of Ibadan, phebeanelsie204@gmail.com

Abstract

Science education is essential for equipping students with the skills and knowledge required to thrive in a technology-driven society. However, the learning of science

subjects by students often faces numerous challenges. One critical factor that influences students' academic success in science is the role of teachers. Teachers play an important role in shaping students' attitudes, engagement, and overall academic achievement. Factors such as teacher personality, teaching methodology, communication skills, and motivational strategies can significantly affect students' learning outcomes in science. This study investigated the extent to which teacher-related factors; personality, teaching methodology, communication skills, and motivational strategies enhance learning of science subjects in Senior Secondary Schools within the Ibadan South East Local Government Area, Oyo State, Nigeria. Using a descriptive research design, 200 science students were randomly selected from 10 schools to participate in the study. Data were collected through structured questionnaire titled "Teachers' Related Factors and Learning of Science Questionnaire (TRFLSQ) of reliability coefficient index of 0.88 and analyzed using descriptive statistics. The findings revealed that all four teacher-related factors moderately enhance learning of science among the students and play a role in improving student outcomes, though to varying extents. The results highlight the importance of teacher-student interactions in science education, while suggesting the need for continuous teacher development in Science education.

Keywords: Teacher Related Factors, Teacher Personality, Teaching Methodology, Communication Skills, Motivational Strategies, Science Learning.

Background to the Study

Science education is essential for equipping students with the skills and knowledge required to thrive in a technology-driven society. However, the learning of science subjects by students often faces numerous challenges. One critical factor that influences students' academic success in science is the role of teachers. Teachers play an important role in shaping students' attitudes, engagement, and overall academic achievement. Factors such as teacher personality, teaching methodology, communication skills, and motivational strategies can significantly affect students' learning outcomes in science. These teacher-related factors collectively determine how well students comprehend

and perform in science subjects (Christian Fischer, 2018). Therefore, understanding the extent to which these factors influence students' learning is vital for improving science education.

The personality of a teacher can have a profound impact on students' engagement and interest in learning science. Teachers who display enthusiasm, patience, and empathy often create a positive learning environment that fosters student participation and curiosity (Butic et al., 2023). Such teachers are more likely to build strong relationships with their students, which can lead to improved learning outcomes. Research shows that teachers who are approachable and supportive help students feel more comfortable, thereby enhancing their ability to ask questions and explore complex scientific concepts (Khodadad, D. (2023). Consequently, the personality traits of a teacher can significantly influence students' motivation and success in science subjects.

The methods a teacher employs in the classroom are critical to students' understanding and retention of scientific knowledge. Active learning strategies such as hands-on experiments, collaborative learning, and the use of technology have been shown to be effective in improving students' understanding of science concepts (Egara, et al. 2024). Conversely, traditional lecture-based methods often fail to engage students or encourage critical thinking, which is crucial in science education. Teachers who adapt their methodologies to include student-centred approaches create a more interactive and stimulating learning environment, which can enhance students' interest and performance in science (Murtonen et all, 2024).

Effective communication is another key factor in the learning of science subjects. Teachers who can clearly explain scientific concepts and encourage classroom discussions help students grasp complex ideas more easily (Soysal, 2024). Moreover, teachers with strong communication skills are better able to give constructive feedback, which guides students towards improving their understanding.

Miscommunication or unclear explanations, on the other hand, can lead to confusion and a lack of confidence among students. Therefore, a teacher's ability to communicate effectively is vital for ensuring that students fully comprehend and engage with science material.

Motivational strategies used by teachers play a significant role in inspiring students to engage with science subjects. Teachers who employ positive reinforcement, set achievable goals, and provide encouragement can significantly increase students' intrinsic motivation to learn (Bonghawan, et all, 2024). Additionally, teachers who connect science lessons to real-world applications can make the subject more relevant and exciting for students, thereby enhancing their interest and willingness to learn. Motivation is particularly important in science education, where students may find topics challenging and abstract. Therefore, the implementation of effective motivational strategies can greatly improve student outcomes in science (Ates, 2024).

Statement of the Problem

The persistent underperformance of students in science subjects remains a major concern in many educational systems. Despite efforts to improve science education, many students struggle to grasp fundamental scientific concepts, leading to low achievement in these subjects. Research suggests that various teacher-related factors, such as personality, methodology, communication skills, and motivational strategies, may significantly contribute to this issue (Abdolalipour et al., 2024; Legede et al., 2024). However, the extent to which these factors influence students' learning outcomes in science is not fully understood, particularly in contexts with limited resources or diverse student population. Without a clear understanding of how teacher-related factors affect science learning, efforts to improve student performance may be misdirected or ineffective. Therefore, this study investigated the extent which teacher personality, teaching methods, communication

skills, and motivational strategies impact the learning of science subjects among students.

Aim and Objectives of the study

The aim of this study was to investigate the extent of teachers' related factors on learning of science among Senior Secondary School Students in Ibadan South East Local Government Area, Ibadan, Oyo State. Specifically, the objectives are to:

1. determine the extent to which teachers' personality enhance learning of science among Senior Secondary School Students in Ibadan South East Local Government Area, Ibadan, Oyo State.
2. determine the extent to which teachers' methodology enhance learning of science among Senior Secondary School Students in Ibadan South East Local Government Area, Ibadan, Oyo State.
3. determine the extent to which teachers' motivational strategies enhance learning of science among Senior Secondary School Students in Ibadan South East Local Government Area, Ibadan, Oyo State.
4. determine the extent to which teachers' communication skills enhance learning of science among Senior Secondary School Students in Ibadan South East Local Government Area, Ibadan, Oyo State.

Literature Review

Teacher Personality and Learning of Science

Teacher personality has a significant impact on students' learning outcomes, especially in science education. Traits like openness, conscientiousness, and agreeableness positively influence student engagement and motivation. Teachers who are enthusiastic, approachable, and emotionally supportive create a conducive learning environment, which encourages active participation and curiosity among science students (Etkina et al, 2024). Research shows that students'

perception of their teachers' personality affects their academic achievement, with proactive teachers fostering higher levels of academic engagement and performance in science subjects (Yoon et al., 2024).

Teacher Methodology and Learning of Science

The teaching methodologies employed by science teachers are critical for student understanding of complex scientific concepts. Active learning methods, such as inquiry-based learning, hands-on experiments, and group discussions, have been found to significantly improve students' retention and comprehension in science (Normurotova, 2024). Research supports that when teachers implement varied instructional strategies tailored to the needs of individual learners, science students demonstrate higher academic success (Ifesinachi et al., 2014). Effective methodologies promote critical thinking, allowing students to better grasp abstract scientific principles.

Teacher Communication Skills and Learning of Science

Effective communication between teachers and students is crucial for the successful transfer of scientific knowledge. Teachers who communicate clearly, simplify complex ideas, and encourage open discussions help students understand and retain information more effectively (Agarwal, 2024). Good communication also involves active listening and providing constructive feedback, which helps science students overcome learning challenges and improve their performance. Studies have shown that when teachers maintain open channels of communication, students feel more supported, leading to better academic outcomes in science (Tao, 2024).

Teacher Motivational Strategies and Learning of Science

Motivational strategies used by teachers play a pivotal role in enhancing students' interest and performance in science. Teachers who set high expectations and provide positive reinforcement can instill a growth

mindset in students, making them more persistent and engaged in learning challenging science concepts (Zou, et.al., 2024). Additionally, using strategies like goal setting, rewards, and encouraging self-assessment helps to keep students motivated, leading to improved academic achievement. Studies suggested that intrinsic motivation, fostered by teacher encouragement, leads to better long-term success in science education (Daniel et al., 2024).

Gaps in Literatures

While existing research has investigated the individual effects of teacher personality, methodology, communication skills, and motivational strategies on students' academic achievements in science, there is a lack of studies that examine the extent of these factors on student learning of science. This gap suggests that most studies have focused on individual teacher-related factors and academic achievement of student but there is a need for a comprehensive study that explores the extent of these factors on secondary student learning of science. This study aimed to fill this gap by investigating the extent of teachers' related factors on learning of science among Senior Secondary School Students in Ibadan South East Local Government Area, Ibadan, Oyo State.

Methodology

This study adopted a descriptive research design. Descriptive research design is appropriate for this study as it allows for a systematic and accurate description of the phenomena under investigation (Creswell, 2014). According to Oyo State Ministry of Education (2024), the population for this study comprised all 1789 science students in the 23 senior secondary schools in the Ibadan South East Local Government Area of Oyo State. The study employed a random sampling technique to ensure that each school and student had an equal chance of being selected, which helps to minimize bias and increase the generalizability of the findings (Etikan, Musa, & Alkassim, 2016). From the 23 senior secondary schools in the local government, 10 schools were randomly

selected. Additionally, 20 science students from each of these schools were randomly chosen, making a total of 200 science students. A structured questionnaire tagged Teachers' Related Factors and Learning of Science Questionnaire (TRFLSQ) was used as the instrument for data collection. Cronbach Alpha coefficient statistics was used to compute the reliability of the instrument with the result from the pilot testing. The computation yielded a reliability index of 0.88 which indicated that the instrument is reliable and appropriate for use. The questionnaire was also subjected to face and content validation by a measurement & evaluation and two science educator's expert. They examined the instrument with regards to relevance and accuracy of the items in terms of language clarity, comprehensiveness of the items bearing in mind the purpose of the study. The comments, suggestions and criticism made by them were implemented before the production the final instrument.

The questionnaire was divided into sections that measured the four independent variables: teacher personality, teaching methodology, communication skills, and motivational strategies. The questionnaire items were adapted from previous studies to ensure validity and reliability (McMillan & Schumacher, 2010). The data collected from the questionnaires were analyzed using descriptive statistics of frequencies and means to summarize the responses.

Presentation of Data

Table 1: Demographics Analysis of the respondent

Gender	**Frequency**	**Percentage (%)**
Male	98	49
Female	102	51
Total	**200**	**100**
Age	**Frequency**	**Percentage (%)**
11 – 13yrs	20	10
14 – 16yrs	140	70
17 – 19yrs	40	20
Total	**200**	**100**

Source: Fieldwork, 2024

Criterion: 0.00 –1.49: Very Low Extent, 1.50–2.49: Low Extent (RA), 2.50 – 3.49: Moderate Extent, 3.50-4.00: High Extent

Tabled 1 showed that 98(49%) of the respondent were male and 102 (51%) were female. It also revealed that 20 (10%) were 11–13 years, 140(70%) were 14–16 years and 40 (20%) 17–19 years.

Table 2: Extent of Teachers' Personality on Learning of Science Among Student.

S/N	**Questionnaire Items**	**SA**	**A**	**D**	**SD**	**Mean (X)**	**Decision**
	Teacher's Personality						
1	My teacher's enthusiastic personality makes	88	64	27	21	3.09	Moderate Extent

	me excited to learn science subject.						
2	I feel comfortable approaching my teacher when I have questions or need help in my science subjects.	78	55	33	34	2.89	Moderate Extent
3	My teacher's positive attitude towards science subject encourages me to engage more in class.	67	64	32	37	2.96	Moderate Extent
4	My teacher's patience helps me understand difficult concepts in science subject.	76	54	31	39	2.83	Moderate Extent
5	I believe my teacher's friendly demeanor creates a supportive learning environment in our science subject class.	67	76	23	34	2.88	Moderate Extent
	Weighted Mean					**2.93**	**Moderate Extent**

Source: **Fieldwork, 2024**

Criterion: 0.00–1.49: Very Low Extent, 1.50–2.49: Low Extent (RA), 2.50–3.49: Moderate Extent, 3.50-4.00: High Extent.

Table 2 revealed a grand mean of 2.93 indicating that to a moderate extent teachers' personality enhance learning of science among Senior Secondary School Students in Ibadan South East Local Government Area, Ibadan, Oyo State.

Table 3: Extent of Teachers' Methodology on Learning of Science Among Students.

	Teacher's Methodology	SA	A	D	SD	Mean (X)	Decision
6	The teaching methods used by my teacher effectively help me grasp Science subject concepts.	67	76	34	23	2.94	Moderate Extent
7	My teacher's use of real-life examples makes Science subject lessons more interesting and relevant.	77	67	33	23	2.99	Moderate Extent
8	I appreciate my teacher's organized approach to delivering Science subject content.	67	69	31	33	2.70	Moderate Extent
9	The assignments and activities assigned by my teacher enhance my understanding of Science subject.	78	59	29	34	3.05	Moderate Extent

10	My teacher's interactive teaching style encourages active participation and learning in Science subject class.	67	69	28	36	2.84	Moderate Extent
	Weighted Mean					**2.90**	**Moderate Extent**

Source: Fieldwork, 2024

Criterion: 0.00 – 1.49: Very Low Extent, 1.50 – 2.49: Low Extent (RA), 2.50 – 3.49: Moderate Extent, 3.50 - 4.00: High Extent

Table 3 revealed a grand mean of 2.90 indicating that to a moderate extent teachers' methodology enhance learning of science among Senior Secondary School Students in Ibadan South East Local Government Area, Ibadan, Oyo State.

Table 4: Extent of Teachers' Motivational Strategies on Student Learning of Science Subjects.

	Teacher's Motivational Strategies	**SA**	**A**	**D**	**SD**	**Mean (X)**	**Decision**
11	My teacher's encouragement motivates me to strive for excellence in Science subject.	59	60	33	48	2.65	Moderate Extent
12	I feel inspired by my teacher's belief in my	69	77	34	20	2.94	Moderate Extent

	ability to succeed in Science subject.						
13	My teacher's constructive feedback helps me stay motivated to improve in Science subject.	77	67	31	25	2.98	Moderate Extent
14	The goal-setting activities implemented by my teacher help me track my progress in Science subject.	81	64	27	28	2.99	Moderate Extent
15	I feel motivated to study and do well in Science subject because of my teacher's support and guidance.	85	55	26	34	2.96	Moderate Extent
	Weighted Mean					**2.90**	**Moderate Extent**

Source: Fieldwork, 2024

Criterion: 0.00 – 1.49: Very Low Extent, 1.50 – 2.49: Low Extent (RA), 2.50 – 3.49: Moderate Extent, 3.50 - 4.00: High Extent.

Table 4 revealed a grand mean of 2.93 indicating that to a moderate extent motivational strategies enhance science student academic performance in Senior Secondary School in Ibadan South East Local Government Area, Ibadan, Oyo State.

Table 5: Extent of Teachers' Communication Skills on Student Learning of Science Subjects.

	Teacher's Communication Skills	SA	A	D	SD	Mean (X)	Decision
16	My teacher effectively explains Science subject concepts in a way that I can understand.	66	78	33	23	2.94	Moderate Extent
17	I feel listened to and understood by my teacher during Science subject class discussions.	60	76	28	36	2.80	Moderate Extent
18	My teacher's clear instructions make it easier for me to complete Science subject assignments.	81	75	31	13	3.12	Moderate Extent
19	I appreciate my teacher's use of visual aids and examples to enhance communication in Science subject.	75	72	29	24	2.99	Moderate Extent
20	I feel confident asking questions and seeking clarification from my teacher in Science subject class.	74	61	26	39	2.85	Moderate Extent

Weighted Mean	**2.94**	**Moderate Extent**

Source: Fieldwork, 2024

Criterion: 0.00 – 1.49: Very Low Extent, 1.50 – 2.49: Low Extent (RA), 2.50 – 3.49: Moderate Extent, 3.50 - 4.00: High Extent.

Table 5 revealed a grand mean of 2.93, indicating that to a moderate extent, teachers' communication skills enhance learning of science among Senior Secondary School Students in Ibadan South East Local Government Area, Ibadan, Oyo State.

Discussion of Findings

The findings indicated that teacher personality, to a moderate extent, enhances learning of science subjects among the students. This was consistent with existing literature, which emphasizes the role of teacher personality traits such as openness, conscientiousness, and emotional stability in fostering a positive learning environment. Teachers with approachable and enthusiastic personalities can significantly motivate students, leading to better engagement and academic outcomes (Choubey, 2024). Furthermore, Harefa et all. (2024) highlighted that teachers who establish strong, positive relationships with students tend to see improved student outcomes, especially in challenging subjects like science. These relationships provide the emotional support students need to persevere through difficult academic content. Hence, a teacher's personality has a direct impact on how well students perform academically, particularly when it comes to creating a conducive learning atmosphere.

The study found that teachers' methodology enhances learning of science subjects to a moderate extent among the student. This finding aligned with research showing that student-centred teaching methods, such as active learning, problem-based learning, and collaborative discussions, contribute to improved academic outcomes (Wang, 2023).

Clark (2023), conducted a study that demonstrated how active learning strategies significantly improve student performance in STEM subjects compared to traditional lecture-based methods. By encouraging critical thinking and hands-on engagement with scientific concepts, these methodologies help students internalize knowledge more effectively.

The study also found that teachers' motivational strategies moderately enhanced science student learning outcomes. This finding aligned with the self-determination theory, which posited that students are more motivated to learn when they feel autonomous, competent, and supported (Ryan, 2023). Teachers who use motivational strategies like positive reinforcement, goal-setting, and encouraging self-assessment can foster a growth mindset in students, where they believe that their abilities in science can improve with effort. Such motivational techniques have been shown to improve not only academic performance but also student engagement and persistence in difficult subjects (Ahmad et all., 2023). Empirical studies further supported the moderate influence of teacher motivation on performance. For example, research by Yahya, et al., (2023), showed that teachers who actively motivate their students by making lessons relevant and engaging foster a learning environment where students are more likely to succeed academically.

The study found that teacher communication skills enhance student academic performance to a moderate extent. Effective communication is critical in the teaching-learning process, especially in science subjects where clarity is essential for understanding complex concepts. Teachers who communicate clearly, provide constructive feedback, and encourage open dialogue in the classroom help to reduce confusion and enhance student learning (Miranda et all., 2023). Qobilovna (2023), emphasized that effective verbal and non-verbal communication can foster a positive classroom climate, leading to better academic outcomes. Moreover, non-verbal cues such as body language, tone of voice, and facial expressions can reinforce understanding and motivate students. Teachers who are skilled communicators are better

equipped to clarify difficult scientific concepts, thereby improving student performance.

Conclusion

The study concluded that teacher-related factors such as personality, teaching methodology, communication skills, and motivational strategies significantly influence the academic performance of science students in senior secondary schools. However, these factors enhance student performance only to a moderate extent, suggesting that, while they are important, other variables may also contribute to students' success. The findings highlighted the critical role that teachers play in shaping students' academic outcomes, particularly in challenging subjects like Physics, Chemistry, Biology and Mathematics. Improving teacher-student interactions through effective communication, innovative methodologies, and motivational strategies can foster better academic performance, though further research is needed to explore additional contributing factors.

Recommendations

1. To improve learning of science among students, teachers should receive continuous professional development in areas such as student-centered teaching methodologies, effective communication, and motivation techniques.
2. Schools should prioritize creating a supportive environment where teachers can refine their approaches to foster student engagement and performance.
3. Additionally, policymakers should consider integrating more teacher-focused interventions within the educational system, ensuring that teachers are equipped with the skills necessary to address diverse student needs. This can involve workshops, collaborative learning sessions, and mentorship programs that focus on both pedagogical

methods and the soft skills required to connect with and motivate students effectively.

References

Burić, I., Butković, A., & Kim, L. E. (2023). Teacher personality domains and no facets: Their unique associations with student-ratings of teaching quality and teacher enthusiasm. *Learning and instruction*, 88, 101827.

Etikan, I., Musa, S. A., & Alkassim, R. S. (2016). Comparison of Convenience Sampling and Purposive Sampling. *American Journal of Theoretical and Applied Statistics, 5*(1), 1 - 4

Khodadad, D. (2023). Creating a supportive and effective learning environment for engineering students : Pedagogical strategies, engagement, and enhanced outcomes. *International Journal of Engineering Pedagogy, 13*(8), 33–50.

Egara, F.O., Mosimege, M. (2024). Effect of blended learning approach on secondary school learners' mathematics achievement and retention. *Educational Information Technology*, 29, 19863–19888.

Murtonen, M., Aldahdouh, T. Z., Vilppu, H., Trang, N. T. T., Riekkinen, J., & Vermunt, J. D. (2024). Importance of regulation and the quality of teacher learning in student-centred teaching. *Teacher Development*, 1-19.

Soysal, Y. (2024). Science teachers' challenging questions for encouraging students to think and speak in novel ways. *Science & Education, 33*(4), 963-1003.

Ateş, H. (2024). Designing a self-regulated flipped learning approach to promote students' science learning performance. *Educational Technology & Society, 27*(1), 65-83.

Abdolalipour, S., Namdar-Areshtanab, H., Ghaffarifar, S., Ghaffari, R., & Mirghafourvand, M. (2024). Exploring the experiences of medical students regarding the factors affecting academic achievement: a qualitative study. *BMC Medical Education*, 24, 1292.

Legede, C. A., Mamo, T. R., Debelo, D. B., & Yismaw, A. A. (2024). The role of teacher-related factors in enhancing quality service provision in pre-primary schools of Gambella regional state, Ethiopia. *Quality Education for All, 1*(1), 348-363.

Etkina, E., & Planinsic, G. (2024). The Investigative Science Learning Environment: A Guide for Teacher Preparation and Professional Development. *IOP Publishing*.

Yoon, H. J., Roberts, B. W., Sewell, M. N., Napolitano, C. M., Soto, C. J., Murano, D., & Casillas, A. (2024). Examining SEB skills' incremental validity over personality traits in predicting academic achievement. *Plos one, 19*(1), e0296484.

Normurotova, A. (2024). Technology for Improving Science Teaching Mechanisms. *World Bulletin of Social Sciences*, 34, 43-46.

Ifesinachi, E. J., Dadzie, J., & Ocheni, A. C. (2024). Enhancing students' academic achievement in basic science: the role of assessment for learning, classroom management, and teacher-student relationships. *European Journal of Education Studies, 11*(5).

Agarwal, P. K. (2024). Personal reflections on science communication and sharing retrieval practice research with teachers. *Educational Psychology Review, 36*(1), 3.

Tao, Y., & Chen, G. (2024). The Relationship Between Teacher Talk and Students' Academic Achievement: A Meta-Analysis. *Educational Research Review*, 100638.

Zou, H., Yao, J., Zhang, Y., & Huang, X. (2024). The influence of teachers' intrinsic motivation on students' intrinsic motivation: The mediating role of teachers' motivating style and teacher-student relationships. *Psychology in the Schools, 61*(1), 272-286.

Daniel, K., Msambwa, M. M., Antony, F., & Wan, X. (2024). Motivate students for better academic achievement: A systematic review of blended innovative teaching and its impact on learning. *Computer Applications in Engineering Education*, e22733.

Creswell, J., & Creswell, J. (2022). Research Design: Qualitative, Quantitative and Mixed Method Approaches (Sixth). *SAGE Publications*

McMillan, J. H., & Schumacher, S. (2010). Research in Education: Evidence-Based Inquiry, MyEducationLab Series. *Pearson.*

Choubey, M. A. (2024). The Role of Personality Development in Teaching. *Personality Development and Character Building*, 16.

Harefa, D., Sarumaha, M., Telaumbanua, K., Telaumbanua, T., Laia, B., & Hulu, F. (2023). Relationship student learning interest to the learning outcomes of natural sciences. *International Journal of Educational Research & Social Sciences, 4*(2), 240-246.

Wang, L. (2023). The Impact of Student-Centered Learning on Academic Motivation and Achievement: A Comparative Research between Traditional Instruction and Student-Centered Approach. Journal of Education, *Humanities and Social Sciences*, 22, 346-353.

Clark, T. M. (2023). Narrowing achievement gaps in general chemistry courses with and without in-class active learning. *Journal of Chemical Education, 100*(4), 1494-1504.

Ryan, R. M., & Vansteenkiste, M. (2023). Self-determination theory. In The Oxford Handbook of Self-Determination Theory (pp. 3-30). *Oxford University Press*.

Ahmad, N., Bibi, N., & Imran, M. (2023). Effects of teacher's motivation on students' academic performance at public secondary schools in Karachi Pakistan. *AITU Scientific Research Journal, 1*(2), 20-32.

Yahya, M. D., Suwarna, A. I., Ginting, D., Bakri, A. A., & Ramli, A. (2023). The relationship between learning motivation, academic achievement, student perceptions and teacher performance of high school students. *Community Development Journal: Jurnal Pengabdian Masyarakat, 4*(2), 2314-2318.

Miranda, J. A., & Wahyudin, A. Y. (2023). Pre-Service Teachers' Strategies In Improving Students' Speaking Skills. *Journal of English Language Teaching and Learning, 4*(1), 40-47.

Qobilovna, A. M. (2023). Communicative competence as a factor of teacher's professional competency. *American Journal Of Social Sciences and Humanity Research, 3*(09), 32-44.